Priorities Competition for STEM Education & Accountability Projects

Welcome!

Welcome to the NASA FY 2015 - FY 2016 STEM Education and Accountability Projects (SEAP) Priorities Competition, an internal NASA request for information or i-RFI. It is important to read the WELCOME, BACKGROUND, and ADVISORY TO APPLICANTS sections in their entirety prior to submitting an application/nomination/proposal. You may need to share this instrument with your local general counsel's office before participating.

This is a criteria-based i-RFI, meaning all submitters answer the same or nearly the same items. This i-RFI does not constitute a SEAP financial commitment, implied or otherwise. This i-RFI is a means to determine the universe of priorities SEAP should consider funding in FY 2015 and in future fiscal years. The three broad categories/criteria are: 1) Background, 2) Focus, and 3) Evidence of Effectiveness. *Currently, each criterion has approximate equal weight, i.e. 33 or 34 points, out of 100 points.* Since this is an innovative process, the criteria weighting is subject to change.

If an application is found to be a SEAP priority as originally proposed or requested to be redesigned in some way, a detailed budget with full narrative and a statement of work typically will be required before any funds are released. This priorities competition is a first step that could result in the funding for only a portion of an application at a level of support that is reduced from the original submitted application. Also, this priorities competition could result in requests to applicants proposing similar activities to work jointly.

There is no limit on the number of activities that any single NASA entity may submit through this i-RFI.

*****The system will not accept applications after 3:00 pm Eastern Time on Wednesday, February 11, 2015.*****

Who May Submit:

Only NASA civil servants at NASA Headquarters, Centers and Facilities should submit activities to this SEAP Priorities Competition. In addition, the JPL's representative to the Education Coordinating Council (ECC) and JPL's ECC representative's designees may submit activities. Technology cannot prevent ineligible submissions. Submissions found to be ineligible/non-compliant for any reason will not be prioritized.

If appropriate, an eligible NASA submitter could request technical assistance to input a submission/nomination from a current NASA support contractor. Do not request assistance or information from any individuals who are not actively employed at NASA as civil servants or contractors. Do not request assistance or information from NASA Space Act Agreement partners or any current or potential non-federal entities such as universities.

Who May Not Submit:

If you are a member of the public, including individuals hosted at or near any NASA Center on a contract or cooperative agreement, please understand this application process is not for you. NASA Education thanks you for your interest, and reminds you that public competitions are conducted via the NASA Solicitation and Proposal Integrated Review and Evaluation System (NSPIRES) and grants.gov. Become a NSPIRES member at: http://nspires.nasaprs.com/external/.

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Background

Background: Why Participate in the i-RFI.

In FY 2012 NASA began restructuring its education related activities in order to streamline and maximize the opportunities it can offer within SEAP's allocated fiscal resources. As a result, many activities are being restructured or eliminated as they complete their natural period of performance. In FY 2015 some (not all) activities once funded by NASA Centers and the Aeronautics Research Mission Directorate (ARMD) and Human Exploration and Operations Mission Directorate (HEOMD) are being internally consolidated within SEAP.

• Purpose: A key (non-exclusive) purpose of this competition is to assess effectiveness and prioritize for funding among the roughly 40 NASA activities reported by the Office of Education (OE), ARMD, HEOMD, and select NASA Centers in the March 2014 Progress Report on Coordinating Federal Science, Technology, Engineering, and Mathematics Education. For a list of those activities please see: TABLE 2: STEM EDUCATION FUNDING IN MILLIONS BY AGENCY AND PROGRAM at:
https://drive.google.com/file/d/0By3dgfOyhvYFU1lnS2lpTngyZG8/view?usp=sharing.

In addition, entirely new activities or activities from prior fiscal years not listed in Table 2 are otherwise eligible for competitive prioritization if such activities comply with this process.

• Process: This first step in the allocation of SEAP funding is a participatory, internal, criteria–based competition that in particular emphasizes "evidence of effectiveness."

Applications/Nominations that are determined to be a SEAP priority will be contacted for additional information as appropriate. All other applications will be declined or deferred pending the resolution of FY 2016 budget.

Eligible applications/activities in this SEAP competition are limited to the following:

· Projects and activities previously funded by ARMD, OE, HEOMD, or NASA Centers that are listed in Table 2 of the March 2014 Progress Report and showing ZERO $ in FY 2015.

· Projects and activities not previously funded that would be new in FY 2015 or FY 2016.

· Projects or activities awarded multi-year grants, cooperative agreements, or contracts in prior fiscal years seeking to continue previously competitively selected grant or contract awards for efforts being conducted at or by NASA Centers—for example, a cooperative agreement selected under the Cooperative Agreement Notice issued by OE NASA Internships Solicitation number: NNJ13ZBR001C.

· Activities proposing that SEAP co-fund Aerospace Research and Career Development (ARCD) or Minority University Research and Education Project (MUREP) efforts are eligible.

Background continued

Non-eligible applications/nominations to this SEAP Priorities Competition include:

• Requests for funding for civil servants at the Centers, Headquarters or elsewhere. Do not submit as a priority the name of any individual.

• Education and Public Outreach (EPO) efforts that are funded by other accounts (e.g., Fellowships in Space Technology Mission Directorate, Science Mission Directorate education activities, etc.)

• Center-unique EPO identified via Center-specific space act agreements

• Activities that are already funded in whole by ARCD or by MUREP.

• Activities that request multi-year funding to be paid in future fiscal years. Do not propose activities that will require funds from a future fiscal year.

• Activities in excess of 36 months in duration.

• Activities requesting total funding in excess of $8 Million.

• Activities requesting total funding for an amount less than $500,000. SEAP activities shall embed appropriate internal and/or external evaluation costs to document actual or potential evidence of effectiveness.

• Applications made outside of this online application form.

Caution: Non-eligible activities/programs/projects normally will be rejected as ineligible for prioritization.

If you are unsure whether the activity/project/program you want to nominate is eligible or whether you are eligible to submit, please send an email to Mary Frances Sladek, SEA Program Director, mary.f.sladek@nasa.gov.

How this Information/Nomination/Application/Submission Will be Used:

The verbatim results of this i-RFI will be shared with the Education Coordinating Council (ECC) and select leaders at NASA Headquarters. In particular the Business Line Directors for NASA Educator Professional Development (EPD), Internships, Fellowships and Scholarships (NIFs) and STEM Engagement (SE) will be asked to concur regarding the applicant's self-reported alignment to one or more of NASA Education's business lines -- EPD, NIFS, SE and Institutional Engagement (IE). The Program/Project Directors for ARCD and MUREP will be asked to concur that the submission does not unnecessarily duplicate what ARCD and MUREP support. The Evaluation Manager will review evaluation reports and/or plans submitted as part of the application.

Reminder: This is not a proposal or pre-proposal review process. Submitters will not receive individualized feedback. There are no internal or external peer reviewers for the applications. The goal of this application process is to produce a list of scores that shows the universe of potential SEAP investments side-by-side. From the SEAP Priorities Competition scores the ECC and other leaders in NASA can better determine the scope for the limited SEAP funds.

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Advisory to Applicants

Advisory to Applicants:

This i-RFI process *is for completely non-proprietary* nominations/applications/submissions.

This application system is a commercial product that does not rely on passwords or user IDs. As a consequence, *it is necessary for individuals to complete a submission in one session. There are no "save" and "save and continue later" functions.*

This system is not designed to automatically generate a summary of your priority submission. There is no preview function prior to final submission. We recommend that you prepare your response outside this application and then cut and paste into the application. A preview copy of the items in the application is available in PDF to assist you in preparing the response and/or to help potential applicants determine whether or not to nominate an activity. Please note that although you can type into the application PDF and save it to your computer, the PDF does not validate responses. Copy and paste this link to download the application PDF: https://drive.google.com/file/d/0By3dgfOyhvYFNk5ZOG92WjhaV3c/view?usp=sharing.

NOTE: Some users have reported difficulty directly linking or even copying and pasting the referenced URLs. Using key words in any internet search engine should locate the reference. Alternatively, you can request to receive an e-mail with the URL or the full PDF by e-mailing Dr. Diane Clayton at diane.schweizer@nasa.gov.

At the end of the application submitters are asked whether they want to receive a pdf file of a final submission.

· For all technical support with the online application, please contact Dr. Lisa Wills, Valador, Inc., Contract Support for the Office of Education, at lisa.e.wills@nasa.gov**.**

· For the all other questions/comments/concerns about this i-RFI, please contact Mary Frances Sladek, SEA Program Director, mary.f.sladek@nasa.gov**.** No phone calls please. No requests to pre-review any final submission please.

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We thank you for taking the time to participate in the SEAP Priorities Competition.

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A. Background Information - Section value 34 pts (estimated)

A1) Is this a new activity i.e., an effort not previously or currently implemented in full or in part under a different name?

- ○ Yes
- ○ No

A2) Use capitalized letters for the NAME OF THE PROPOSED ACTIVITY. (100 characters including spaces limit.)

A3) If this activity was previously funded by NASA or is proposed as a co-funded effort, please specify by selecting the appropriate account(s). If the account name is not listed, select "Other" and specify below. If new, select "Not applicable."

- ☐ Aeronautics Research Mission Directorate
- ☐ Cross Agency Support
- ☐ Human Exploration and Operations Mission Directorate
- ☐ Headquarters Office of Education
- ☐ Science Mission Directorate
- ☐ Space Technology Mission Directorate
- ☐ Not applicable.
- ☐ Other. None of the above NASA funding sources funded this effort.

If "Other," please specify (100 characters including spaces limit):

A4a) Is this activity designed to address a particular legally established purpose, i.e., United States law or Presidential executive order applicable to NASA?

- ○ Yes
- ○ No
- ○ Don’t know/ Don’t understand

A4b) Has a NASA lawyer ever been consulted regarding whether this activity is authorized by or responds to a particular law or other legal requirement (such as an executive order) on the agency?

- ○ Yes
- ○ No
- ○ Don't know/ Don't understand

A4c) What did the NASA lawyer(s) indicate is/are U.S. law or code that authorize(s) this effort? Select one or more:

- ☐ The National Aeronautics and Space Act (e.g., scholarships)
- ☐ A NASA Authorization Act (e.g. the Authorization Act of 2005, etc.)
- ☐ Other U.S. Code (e.g. Directed Appropriation, the Civil Rights Act, etc.)
- ☐ Not applicable

A5) If the activity had not been consolidated into SEAP, what would have been the amount of FY 2015 mortgage or lien, i.e., that is the projected funding increment for any type of funding vehicle including awards to individuals? If new or the funding vehicle has expired, select "Not applicable."

- ○ $0
- ○ If greater than $0, justify below:
- ○ Not applicable

Justification (100 characters including spaces limit):

A6) Was the effort consolidated or proposed for consolidation in FY 2015 or prior FYs?

- ○ Not applicable
- ○ No
- ○ Yes

If "Yes," provide effective FY using 4 digits (YYYY):

A7) How much money are you requesting? Floor $500,000; ceiling $8 million (whole numbers only, no symbols or decimals.)

A8) What is the expected duration of this activity in months? (Minimum 6 months, maximum 36 months; whole numbers only, no symbols or decimals.)

A9) Select the mechanism(s) anticipated in the conduct of the proposed activity:

- ☐ Contract
- ☐ Federal domestic assistance (i.e., grants, cooperative agreements)
- ☐ Intra-NASA recipient (e.g., JPL, Center)
- ☐ Inter-agency transfer (i.e., going from NASA to a federal, state, or local government)
- ☐ Space Act Agreement
- ☐ Other- None of the options provided are appropriate for this effort.

A10) Which NASA Center/Organization proposes to provide oversight and tracking for the funds?

- ○ ARMD
- ○ CAS
- ○ HEOMD
- ○ HQOE
- ○ SMD
- ○ STMD
- ○ Ames Research Center (ARC)
- ○ Armstrong Flight Research Center (AFRC)
- ○ Glenn Research Center (GRC)
- ○ Goddard Space Flight Center (GSFC)
- ○ Jet Propulsion Laboratory (JPL)
- ○ Johnson Space Center (JSC)
- ○ Kennedy Space Center (KSC)
- ○ Langley Research Center (LaRC)
- ○ Marshall Space Flight Center (MSFC)
- ○ Stennis Space Center (SSC)

A11) Will the activity be co-managed with NASA Center(s) (NC) or in collaboration (e.g. space act or other agreement) with NASA Visitor Center(s) (VC)? Select one or more, or "Not applicable."

- ☐ Aero Institute -AFRC's non-federal VC
- ☐ Ames Research Center-ARC
- ☐ Armstrong Flight Research Center-AFRC
- ☐ Exploration Center-ARC's federal VC
- ☐ Glenn Research Center- GRC
- ☐ Goddard Space Flight Center-GSFC
- ☐ Great Lakes Science Center-GRC's non-Federal VC
- ☐ Greenbelt VC (federal)
- ☐ Infinity Science Center –SSC's non-federal VC
- ☐ Jet Propulsion Laboratory-JPL
- ☐ Johnson Space Center-JSC
- ☐ Kennedy Space Center-KSC
- ☐ KSC Visitor Center (federal concession)
- ☐ Langley Research Center-LaRC
- ☐ Marshall Space Flight Center-MSFC
- ☐ Maryland Science, Exploration, and Education Center at Goddard (non-federal)
- ☐ Space Center Houston-JSC's non-federal VC
- ☐ Stennis Space Center-SSC
- ☐ U.S. Space and Rocket Center-MSFC's non-federal VC
- ☐ Virginia Air and Space Center-LaRC's non-federal VC
- ☐ von Karman Visitor Center-JPL's non-federal VC
- ☐ Wallops Island Flight Facility VC (federal)
- ☐ Not applicable

A12) ***The list below is in random order*****. In terms of implementing this activity, please <u>select one or more</u> NASA-unique asset involved/ proposed to be involved.**

- ☐ Federal NASA Educator Resource Centers (ERC) and Visitor Centers (VC) (Note: non-federal ERCs and VCs are not NASA assets.)
- ☐ NASA Education Specialists who are contractors or civil servants.
- ☐ NASA Engineers, Scientists, Technologists or other subject matter experts or professionals who are contractors or civil servants.
- ☐ NASA Speakers Bureau, Exhibitors or other experts or assets reporting to NASA's Communications Coordinating Council (CCC)
- ☐ NASA's Digital Learning Network (non-cooperative agreement assets only)
- ☐ NASA Museum Alliance
- ☐ Any type of specialized facility or equipment NASA owns or operates (in whole or in part) such as and not limited to launch vehicles, flight platforms, neutral buoyancy lab, etc.
- ☐ A particular Mission(s) Expert(s) or technical content (Note: Indicate which Mission(s) in the B1 Activity Abstract.
- ☐ Other NASA Asset. (Specify in the B1 Activity Abstract.)
- ☐ Unsure/ To be determined
- ☐ Not applicable

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Special Note & Resources

Special note, if you are proposing an activity at the undergraduate level for pre-service teachers in any Office of Education line of business, please review these two publications to make sure the effort will use recommended strategies described in:

One Million Additional College Graduates with Degrees in Science, Technology, Engineering, and Mathematics:
https://drive.google.com/file/d/0By3dgfOyhvYFZldoUVN0YWstYTg/view?usp=sharing

Prepare and Inspire: K-12 Science, Technology, Engineering, and Math (STEM) Education for America's Future:
https://drive.google.com/file/d/0By3dgfOyhvYFcmN3dF9rZVAzMGM/view?usp=sharing

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B. Focus - Section value 33 pts (estimated)

B1) Activity Abstract limited to 2000 characters including spaces. You will not be able to format text, use special characters, foot- or endnotes, etc.

IMPORTANT: Abstracts will be seen by individuals who do not read the whole submission. Begin the abstract using the proposed activity name in all capital letters from A2, and insert information from A7, and A8 arranged as follows:

PROPOSED ACTIVITY NAME_Estimated Dollars [A7]_ Approximately [A8] Months.

Example: SUNSHINE STATE ROBOTICS_Estimated Dollars 650000_Approximately 20 Months

List names of managing/collaborating organization(s) from A10 & A11. If stylistically you prefer to use only full sentences to provide information, that is fine. It is up to you.

If you indicated in A4 that this activity addresses a particular part of the Space Act or other legal purpose, then excerpt as much verbatim text that is useful. At a minimum, give the citation number, e.g., PL 109-155 SEC. 616. MUSEUMS.

If in A12 you indicated this activity addresses a particular mission(s), then include the mission(s) name (past or current.)

If in A12 you chose "Other NASA asset," then specify the NASA-unique asset.

Reference to URLs is at the applicant's own risk. Internal reviewers are not required to look at anything beyond the abstract text itself.

B2) Please indicate the main NASA technical content area(s). Note: "Other" is descriptive and equivalent to a particular, singular technical content area. A particular mission activity (e.g. Hubble, etc.) should identify itself in "Other."

Focuses on multiple technical areas **includes one or more listed area(s). It also includes any efforts involving one or more non-STEM content areas, for example NASA history. If you don't understand this item, choose "Don't know/ Unsure." Select one response:**

- Aeronautics
- Earth Science (includes climate change research)
- Microgravity
- NASA History
- Space Exploration (includes current human space flight missions, the effect of exploration on human health etc.)
- Space Science (includes current robotic space flight missions)
- Space Technology
- Focuses on multiple technical areas
- Don't know/ Unsure
- Other: Please specify (includes particular missions) (50 characters including spaces limit):

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B3) Specify which end users, target populations or groups this effort is designed to benefit. *The list is in random order*. Select one or more:

- ☐ Administrators, schools, and/or districts, and other organizations
- ☐ English as a Second Language Learners and/or Teachers
- ☐ Formal and informal educators
- ☐ Home-schooled
- ☐ Multi-generational audiences
- ☐ Non-U.S. participants
- ☐ Persons with disabilities
- ☐ PK-12 students
- ☐ Post-secondary educators and/or faculty
- ☐ Post-secondary students
- ☐ Racially and/or ethnically underrepresented students
- ☐ Rural or Urban underrepresented or underserved PK12 students
- ☐ Women (includes efforts targeting girls) Note: Proposed activities shall not exclude men and/or boys.
- ☐ U.S. Veterans
- ☐ If "Other," please specify (100 characters including spaces limit.) Note: "Other" may be used if necessary to identify a sub-category.

Hint: To respond to question B4, refer to the Federal Science, Technology, Engineering, and Mathematics (STEM) Education 5-Year Strategic Plan for more information at: https://drive.google.com/file/d/0By3dgfOyhvYFOUJ5MENDYVp6eEE/view?usp=sharing.

B4) This list is in order of presentation in the Federal STEM Education 5-Year Stategic Plan. Recognizing that activities may equally contribute to more than one item on the list, select one of the following Priority STEM Education Investment Areas or STEM Education Coordination Approaches most shared by this effort.

- Improve STEM Instruction: *Prepare 100,000 excellent new K-12 STEM teachers by 2020, and support the existing STEM teacher workforce.*
- Increase and Sustain Youth and Public Engagement in STEM: *Support a 50 percent increase in the number of U.S. youth who have an effective, authentic STEM experience each year prior to completing high school.*
- Enhance STEM Experience of Undergraduate Students: *Graduate one million additional students with degrees in STEM fields over the next 10 years.*
- Better Serve Groups Historically Under-represented in STEM Fields: *Increase the number of underrepresented minorities that graduate college with STEM degrees in the next 10 years and improve women's participation in areas of STEM where they are significantly underrepresented.*
- Design Graduate Education for Tomorrow's STEM Workforce: *Provide graduate-trained STEM professionals with basic and applied research expertise, options to acquire specialized skills in areas of national importance and mission agency's needs, and ancillary skills needed for success in a broad range of careers.*
- Build new models for leveraging assets and expertise. *Implement a concept of lead and collaborating agencies in priority areas to leverage capabilities across agencies to ensure the most significant impact of Federal STEM education investments.*
- Build and use evidence-based approaches. *Conduct STEM education research and evaluation to build evidence about promising practices and program effectiveness, use across agencies, and share with the public to improve the impact of the Federal STEM education investment.*
- Not applicable/ Don't know

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B5) What are the objectives through which this effort addresses your response to question B4? ***The list is in random order*****. Select and rank up to three:**

	Primary Objective	Secondary Objective	Tertiary Objective
Learning: Develop STEM skills, practices, or knowledge of students or the public.	○	○	○
Engagement: Increase learners' engagement, interest in STEM and their perception of its value to their lives, or their ability or participate in STEM.	○	○	○
Pre- and In- Service Educator/Education Leader Performance: Train or retain STEM educators to improve the content knowledge and pedagogical skills of STEM educators.	○	○	○
Post-Secondary STEM Degrees: Increase the number of students who enroll in STEM majors, complete STEM credentials or degree programs, or are prepared to enter STEM careers or advanced education.	○	○	○
STEM Careers: Prepare people to enter STEM workforce with training or certification (where STEM discipline specific knowledge	○	○	○

and skill are the primary focus of the education effort).			
Institutional Capacity: Support advancement and development of STEM personnel, programs, and infrastructure in educational institutions such as universities, informal education institutions, state education agencies, and local education agencies.	○	○	○
Education Research and Development: Develop evidence-based STEM education models and practices.	○	○	○
Not applicable	○	○	○
Other	○	○	○

If "Other," please specify (100 characters including spaces limit):

B6) Provide a brief narrative justification for your responses in B5 (900 characters including spaces limit):

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B7a) The Office of Education supports NASA in reaching Strategic Objective 2.4: ***Advance the Nation's Science, Technology, Engineering, and Math (STEM) education and workforce pipeline by working collaboratively with other agencies to engage students, teachers and faculty in NASA's missions and unique assets.*** **To which of NASA's Performance Goals and Education Annual Performance Indicators (APIs) does (or would) this effort align? Select one or more:**

☐ 2.4.1: **Assure that students participating in NASA higher education projects are representative of the diversity of the Nation.** ED15.1: Provide significant, direct student awards in higher education to which of the following at percentages that meet or exceed the national percentages for these populations, as determined by the most recent, publicly available data from the U.S. Department of Education's National Center for Education Statistics.

☐ 2.4.2: **Continue to support STEM educators through the delivery of NASA education content and engagement in educator professional development opportunities.** ED15.2: Engage with at least 250,000 educators, using NASA-unique STEM content, in NASA supported professional development, research, and internships that use NASA-unique STEM content.

☐ 2.4.4: **Continue to provide opportunities for learners to engage in STEM education through NASA unique content provided to informal education institutions designed to inspire and educate the public.** ED15.4: Maintain the NASA Museum Alliance and/or other STEM education strategic partnerships in no fewer than 30 states, U.S. Territories and/or the District of Columbia.

☐ 2.4.5: **Continue to provide opportunities for learners to engage in STEM education engagement activities that capitalize on NASA unique assets and content.** ED15.5: Engage with at least 600,000 elementary and secondary students in NASA STEM engagement activities.

☐ Not applicable/ Don't Know

B7b) Regarding ***2.4.1: Assure that students participating in NASA higher education projects are representative of the diversity of the Nation,*** **for the activity, select one or more:**

☐ (1) students across all institutional categories and levels (as defined by the U.S. Department of Education)

☐ (2) racially or ethnically underrepresented students

☐ (3) women

☐ (4) persons with disabilities

☐ Not applicable/ Don't Know

B7c) Regarding *2.4.2: Continue to support STEM educators through the delivery of NASA education content and engagement in educator professional development opportunities,* for the activity, select one or more:

- ☐ (1) professional development
- ☐ (2) research
- ☐ (3) internships
- ☐ Not applicable/ Don't Know

B7d) Regarding *2.4.4: Continue to provide opportunities for learners to engage in STEM education through NASA unique content provided to informal education institutions designed to inspire and educate the public. In no fewer than 30 states, U.S. Territories, and/or the District of Columbia,* for the activity, select one or more:

- ☐ NASA Museum Alliance
- ☐ Other STEM education strategic partnerships
- ☐ Not applicable/ Don't Know

B7e) Regarding *2.4.5: Continue to provide opportunities for learners to engage in STEM education engagement activities that capitalize on NASA unique assets and content,* for the activity, select one or more:

- ☐ elementary students
- ☐ secondary students
- ☐ Not applicable/ Don't Know

B8) Indicate the activity's alignment with the Office of Education. For more information on this list, see page 3 of https://drive.google.com/file/d/0By3dgfOyhvYFNmZBNWNyN3p3SXM/view?usp=sharing. Select exactly two options most highly related to your activity. To complete the question, however, one choice can be "None of the above." :

- ☐ Educator Professional Development
- ☐ Institutional Engagement
- ☐ NASA Internships, Fellowships, and Scholarships
- ☐ Office of Education Infrastructure Division
- ☐ STEM Engagement
- ☐ None of the above

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B9) Does the proposed activity involve or plan to involve any other federal agency or agencies? If so, please name below:

- ○ No
- ○ Yes

If "Yes," name of agency (or agencies) (100 characters including spaces limit):

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C. Evidence of Effectiveness: Program Outcome Measures & Evaluations

Section C has an estimated value of 33 pts. This section asks for information about outcomes measures and program evaluation. Before answering these questions, please read the definitions provided.

Note: **Program evaluations** are individual systematic studies conducted periodically or on an ad hoc basis to assess how well a program is working. They are often conducted by experts external to the program, either inside or outside the agency, as well as by program managers. A program evaluation typically examines achievement of program objectives in the context of other aspects of program performance or in the context in which it occurs.

Note: Outcomes measurement is the ongoing monitoring and reporting of the **results of the products and services delivered by the program**, or program accomplishments, particularly progress toward pre-established goals. It is typically conducted by program or agency management.

For more information on program evaluation, outcomes measurement, and evidence-based strategies, please consult one or more of the following resources:

Common Guidelines for Education Research and Development A Report from the Institute of Education Sciences, U.S. Department of Education and the National Science Foundation, August 2013 https://drive.google.com/file/d/0By3dgfOyhvYFVmVocVI5Y2FiZHc/view?usp=sharing.

The Framework for Evaluating Impacts of Informal Science Education Projects: Report from a National Science Foundation Workshop, National Science Foundation, March 2008 https://drive.google.com/file/d/0By3dgfOyhvYFTUtkVXduLTh3TlE/view?usp=sharing.

Principal Investigator's Guide: Managing Evaluation in Informal STEM Education Projects, Center for Advancement of Informal Science Education, Association of Science-Technology Centers, 2011 https://drive.google.com/file/d/0By3dgfOyhvYFUG5mV2Z3VWFKbmc/view?usp=sharing.

Designing Evaluations, Government Accountability Office, 2012 https://drive.google.com/file/d/0By3dgfOyhvYFMWZxZ3VCeXI1d2s/view?usp=sharing.

Learning Science in Informal Environments: People, Places, and Pursuits, National Research Council of the National Academies, 2009 https://drive.google.com/file/d/0By3dgfOyhvYFVGdycWdvZXQ2NjQ/view?usp=sharing.

Surrounded by Science: Learning Science in Informal Environments, National Research Council of the National Academies, 2010 https://drive.google.com/file/d/0By3dgfOyhvYFRG9RSW9tbG5NWnc/view?usp=sharing.

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C1) Does the proposed effort use or plan to use strategies that research evidence indicates will contribute to the Federal STEM Education 5-Year Strategic Plan ?

- ○ Yes
- ○ No
- ○ Don't know
- ○ Not applicable

If "Yes," briefly explain (200 characters and spaces limit):

C2a) Is there an evaluation report on this effort? Or, if new, is there an evaluation plan?

- ○ Yes, completed
- ○ Yes, but not completed
- ○ No, and no evaluation is planned yet
- ○ Other

If "Other," please specify (100 characters including spaces limit):

C2b) If "Yes, completed" or "Yes, but not completed," please include in the box below a link to the evaluation report or plan, if available, or email a copy of the evaluation report or evaluation plan to patricia.a.shaffer@nasa.gov. If "No, and no evaluation is planned yet," please briefly explain in the box below the type of evaluation (internal/external) that you are considering and any other details you would like to include. (500 characters including spaces limit.)

C2c) For this activity, what type(s) of evaluation has been done/ is planned? You must select at least one response. If you responded " No, and no evaluation is planned yet" to question C2a, select "Not applicable."

	External	Internal
Formative evaluation (including field testing)	○	○
Summative evaluation	○	○
Portfolio evaluation/review	○	○
Expert review (e.g., expert panel, NRC study)	○	○
Process or implementation evaluation (includes exploratory case studies, logic model, etc.)	○	○
Not applicable	○	○
Other	○	○

If "Other," please specify (100 characters including spaces limit):

C3) In assessing the success of this effort, what outcome measures were/would be tracked or monitored? ***The list is in random order.*** **Select one or more:**

- ☐ Student performance (e.g., attendance, test scores, pass rates, achieving selected performance levels, or grade point average)
- ☐ Number or percent of students who pursue coursework in STEM fields
- ☐ Student educational attainment (includes obtaining a GED, high school diploma, or postsecondary degree)
- ☐ Student educational attainment at the graduate level (includes obtaining a Master's degree or doctoral degree)
- ☐ Number or percent of students who took a job in a STEM field
- ☐ Teacher improvement and performance in formal or informal STEM education instruction
- ☐ Number or percent of qualified teachers teaching STEM education
- ☐ Number or percent of institutions with expanded institutional capacity for STEM education (increase in classes, teachers, research opportunities for students, infrastructure, etc.)
- ☐ Number or percent of research projects funded to enhance the quality of STEM education
- ☐ Number or percent of recommendations implemented to enhance the quality of STEM programs
- ☐ Program participant satisfaction
- ☐ Other

If "Other," please specify (200 characters including spaces limit):

C4) What outputs were/would be measured? ***The list is in random order*****. Select one or more:**

- ☐ Number of learners (any age) served/participating
- ☐ Number of educators (any type) served/participating
- ☐ Number of adults served/participating
- ☐ Number of K-12 schools served/participating
- ☐ Number of school districts served/participating
- ☐ Number institutions of higher education (includes community colleges) served/participating
- ☐ Number of materials distributed or downloaded from websites
- ☐ Number of contact hours by audience
- ☐ Hours of tutoring, mentoring, or other service provided
- ☐ Number of degrees awarded
- ☐ Number of Youth-Serving Organizations, museums and other types of informal education institutions served.
- ☐ Other

If "Other," please specify (100 characters including spaces limit):

C5a) Is the existing effort structured to collect or use evidence to support continuous improvement? Or, if new, would the effort be structured to collect or use evidence to support continuous improvement?

- ○ Yes
- ○ Don't know
- ○ No

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C5b) What primary and secondary approaches are/would be used to implement evidence of effectiveness? ***The list is in random order.*** **You must select one response per column:**

	Primary Approach	Secondary Approach
Basic Education Research: on STEM learning, teaching, or education practices/materials/technology	○	○
Disciplinary Learning and Teaching: research and development interwoven to improve STEM learning and teaching, within a single STEM discipline or across specific disciplines (e.g. learning trajectories research)	○	○
Small-Scale Implementing: techniques, models, resources, and/or technologies used with a relatively small group of learners or educators in one or several (<10) classrooms, museums, schools, etc.	○	○
Building Capacity of People or Organizations: development of human and institutional capacity to develop, test, adapt and implement effective STEM education work	○	○
Large Scale Deploying: techniques, models, resources, and/or technologies implemented at the state, regional, or national scale	○	○
Not applicable/ Don't know Primary Approach	○	○
Not applicable/ Don't know Secondary Approach	○	○
Other Primary Approach	○	○
Other Secondary Approach	○	○

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If "Other," please specify (200 characters including spaces limit):

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D1) Submitter Contact/Tracking Items

Identify two points of contact (POC) who can address questions about this application (mandatory).
Attention JPL applicants: One of the POCs must be Parvin Kassaie, JPL's ECC representative.

POC 1:

Email:

Preferred phone:

POC 2:

Email:

Preferred phone:

Please designate a cell or office phone to serve as the application tracking number and enter below (no dashes or spaces). Mandatory and caution: If you are nominating more than one activity, use a different phone number for each activity. There is no limit on the number of activities that can be submitted:

Are you the POC on more than one application?

- No
- Yes

If "yes," please provide the names of ALL other efforts for which you are listed POC:

Do you want to receive an email from lisa.e.wills@nasa.gov with a PDF attachment of a submitted application? Note: PDFs are not auto-generated. Response may take up to 72 hours.

- No
- Yes

If "Yes," please provide the email address to which the pdf should be sent: